Amendments to the Claims

1. (original) A composition comprising:

cells; and

an IAP binding cargo molecule, said IAP binding cargo molecule having a detectable property which is modified upon binding of the molecule to IAP in the cells.

2. (original) The composition of claim 1 wherein the detectable property is emission of light.

3. (original) The composition of claim 1 wherein said IAP bonding cargo molecule is peptide of formula (IV)

$$X_{aa1}(X_{aa})_Y X_{aa(Y+1)}\text{-cargo}$$

(IV)

X_{aa1} is Ala or Abu, and wherein said cargo portion is fluorogenic.

4. (original) The composition of claim 1 wherein said cell are from a bodily fluid, tissue, or combination of these.

5. (original) The composition of claim 1 wherein said cells include neoplasitic cells.

6. (original) The composition of claim 3 wherein the cargo portion of the molecule is badan.

7. (currently amended) The composition of claim 1 wherein said IAP binding cargo molecule binds to the BIR3 **(SEQ ID NO: 15)** surface groove of an IAP.

8. (original) The composition of claim 1 wherein said IAP binding cargo molecule displaces IAP from a caspase in said cells.

9. (original) The composition of claim 1 wherein said IAP bonding cargo molecule is an NMR-active nucleus or MRI constast agent and the selective identification is performed through nuclear magnetic resonance or magnetic resonance imaging.

10. (currently amended) The composition of claim 1 wherein said IAP bonding cargo molecule is ~~APVC-badan~~ AVPC-badan.

11. (original) A method of identifying IAP in cells comprising:

monitoring a mixture of one or more IAP binding cargo molecules with one or more sample cells for a change in a detectable property of one or more of said IAP binding cargo molecules, said detectable property changed upon formation of a complex between the IAP binding molecule and IAP in said sample cells.

12. (original) The method of claim 11 further comprising the act of:

comparing a change in a detectable property of one or more IAP binding cargo molecules mixed with one or more control cells to the detectable change of the one or more IAP binding cargo molecules mixed with one or more sample cells, said comparison related to the amount of IAP in said sample cells.

13. (original) The method of claim 11 further including the act of combining one or more IAP binding cargo molecules with one or more sample cells.

14. (original) The method of claim 11 wherein the monitoring includes absorption or emission of radiant energy by said mixture.

15. (original) The method of claim 11 wherein the change in a detectable property of one or more of said IAP binding cargo molecules is a fluorescent emission of said IAP binding molecule.

16. (original) The method of claim 11 wherein said IAP binding cargo molecule is capable of displacing IAP from a caspase in said sample cells.

17. (currently amended) The method of claim 11 wherein the IAP bonding cargo molecule is ~~APVC-badan~~ AVPC-badan.

18. (original) A method of treating cells comprising:

identifying cells having abnormal expression of IAP in a combination of one or more sample cells with one or more IAP binding cargo molecule; and

administering an amount of the IAP-binding cargo molecule to said cells to reduce the amount of IAP in said sample cells.

19. (original) The method of claim 18 wherein the act of identifying includes monitoring a mixture of one or more IAP binding cargo molecules with one or more sample cells for a change in a detectable property of one or more of said IAP binding cargo molecules, said detectable property changed upon formation of a complex between the IAP binding molecule and IAP in said sample cells.

20. (original) A article comprising:

packaging material containing an IAP binding cargo composition; said packaging material including a label that indicates that the IAP binding cargo composition can be used for detecting IAP in a sample of one or more cells.

21. (original) A method of selectively identifying neoplastic cells in a mixed population of cells, the method comprising:

contacting a sample of the mixed cell population with an IAP-binding cargo molecule under conditions enabling the IAP-binding cargo molecule to bind IAP within the neoplastic cells, thereby selectively identifying the neoplastic cells.

22. (original) The method of claim 21, wherein the cells are cultured cells.

23. (original) The method of claim 21, wherein the cells are removed from a subject by biopsy.

24. (original) The method of claim 21, wherein the contacting is performed by introducing the labeled IAP-binding cargo molecule into a living subject possessing or suspected of possessing the neoplastic cells.

25. (original) The method of claim 21, wherein the IAP-binding cargo molecule comprises a fluorogenic dye label.

26. (original) The method of claim 25, wherein the IAP binding cargo molecule is AVPC-badan.

27. (original) The method of claim 21, wherein the labeled IAP-binding cargo molecule comprises an NMR-active nucleus and the selective identification is performed through nuclear magnetic resonance or magnetic resonance imaging.

28. (original) The method of claim 21, wherein the labeled IAP-binding cargo molecule comprises a contrast agent and the selective identification is performed through magnetic resonance imaging.

29. (original) The method of claim 21, wherein the labeled IAP-binding cargo molecule comprises a radioisotope and the selective identification is performed through positron emission tomography.

30. (original) A method of selectively damaging or killing neoplastic cells in a mixed population of cells, the method comprising:

contacting a sample of the mixed cell population with an IAP-binding cargo molecule linked to an agent that is directly or indirectly toxic to cells under conditions enabling the IAP-binding cargo molecule to bind IAP within the neoplastic cells, whereupon the agent directly or indirectly exerts its toxic effect, thereby damaging or killing the neoplastic cells.

31. (original) The method of claim 30, wherein the agent is a radioisotope.

32. (original) The method of claim 30, wherein the agent is a photosensitizing agent and the selective damaging or killing is performed by exposing the cell population to light.

Amendments to the Figures

Please replace FIG. 4 with the following amended figure:

Table 4: K_D

$K_D(\mu M)$		$K_D(\mu M)$		$K_D(\mu M)$		$K_D(\mu M)$	
Natural Analogs		**Position 2**		**Position 4**		**Positions 2 and 4**	
AVPI (18)	0.48	ARPI (20)	0.18	AVPW (24)	0.11	ARPF (48)	0.02
AVPIAQKSE (49)	0.40	ALPI (25)	0.29	AVPL (32)	0.49		
AVAF (59)	0.56	AHPI (29)	0.33	AVPC (17)	1.4	**N-methyl Analogs**	
AVPF (19)	0.04	AIPI (27)	0.39	AVPV (35)	1.5	ARP(N-Me)F (75)	0.71
AVPY (28)	0.30	AKPI (61)	0.57	AVPT (34)	2.1	AVP(N-Me)F (76)	0.89
		AYPI (62)	0.59	AVPM (40)	2.3	A(N-Me)VPF (77)	83
Position 1		ACPI (63)	0.65	AVPS (43)	4.4	A(N-ME)VP(N-Me)F (78)	91
AbuVPI (26)	0.24	AMPI (64)	0.73	AVPG (36)	4.7	AVP(N-Me)I (79)	174
GVPI (21)	9	AFPI (65)	0.79	AVPP (44)	5.7	ARP(N-Me)I (80)	190
SVPI (60)	27	AQPI (66)	0.94	AVPD (33)	7.3	A(N-Me)VPI (81)	257
		AWPI (67)	0.99	AVPH (37)	7.3		
		ATPI (68)	1.2	AVPA (39)	14		
		ASPI (69)	1.4	AVPK (45)	28		
		ANPI (70)	1.5	AVPE (41)	93		
		AEPI (71)	2.7	AVPR (46)	>100		
		AAPI (72)	2.8	AVPN (42)	>100		
		ADPI (73)	17	AVPQ (38)	>100		
		AGPI (22)	46				
		APPI (74)	>100				

FIG. 4
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